



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,576	07/01/2005	Hideki Asazu	263124US6PCT	8414
22850	7590	10/02/2008		
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
GUPTA, MUKTESH G				
ART UNIT		PAPER NUMBER		
2144				
NOTIFICATION DATE		DELIVERY MODE		
10/02/2008		ELECTRONIC		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/518,576

Applicant(s)

ASAZU ET AL.

Examiner

Muktesh G. Gupta

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 June 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-43 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-43 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-946)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. **Claims 1-43** are amended.

Claims 1-43 are presented for examination have been examined on merits and are pending in this application.

Response to Amendment

2. Acknowledgment is made for Applicants Amendments for claims filed on 06/30/2008.

As regards to IDS forms PTO-1449, it is not necessary to initial the respective boxes in the PTO-1449 forms, since all references were considered except where lined through and initialed at the end of the form by the examiner.

Claims 17-20 rejection under 35 USC § 101 is withdrawn as **Claims 17-20** are amended.

Applicant's amendment necessitated updating search and new ground(s) of rejection presented in this office action. Applicant's arguments are deemed moot in view of the following new grounds of rejection as explained here below, necessitated by Applicant's substantial amendment (i.e., reference information receiving means that receives reference information from the one or more user devices, the reference information specifying contents to be referred to by the related information and specifying a data reference position in the contents) to the claims which significantly affected the scope thereof.

Applicant's arguments are deemed moot in view of the following new grounds of rejection as explained here below.

Applicant's arguments with respect to amended **Claims 1-43**, have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-43** are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6493872 to Rangan, P. Venkat et al., (hereinafter "Rangan") as applied to **Claims 1-43**, and further in view of US Patent No. 7143428 to Bruck; Timo et al., (herein after "Bruck").

a. *Regarding **Claims 1-43** Rangan discloses substantially the invention as claimed. Rangan does not explicitly disclose wherein a related information receiver that receives related information.*

b. *Rangan discloses (as stated in col. 5, lines 64-67, col. 6, lines 1-5, authoring station 11 adapted for accepting a video data stream 16 from a video head end 15 as is known in the art. The original video data source 12 may be any recorded or live source and is not limited as to protocol.*

c. *Rangan does not disclose that the authoring station 11 adapted for accepting a video data stream 16 from a video head end is related information on contents comes from one or more user devices.*

d. *Bruck does disclose, (as stated in col. 4, lines 13-14, lines 33-67, col. 5, lines 1-2, col. 7, lines 26-58, FIG. 2 is a block diagram illustrating internal features of set-top box 12. A receiver 44 receives broadcast video signals, such as an NTSC video signal. The video signal may be received and decoded directly by the receiver or may be a feed from a separate box, such as a cable decoder or a satellite receiver (not shown). Typically, the receiver is able to tune into a selectable channel or control/monitor the tuning of an external device such as the satellite receiver. This capability allows the set-top box to know what video signal is being processed, which in turn enables various functional capabilities described herein below. The receiver is coupled to ASIC 32 to provide corresponding electrical signals to ASIC 32. This allows video data carried in broadcast video signal 20 to be presented to the viewer on television 14. More specifically, receiver 44 is configured to digitize the incoming video signal, which is stored in RAM 48, so that ASIC 32 and CPU 30 can process the video signal before displaying it on the television. This configuration enables the set-top box to generate shared screen viewing where the video signal only occupies a portion of the screen. The remaining screen area then can be used to display various user interface controls or data, as described in more detail below. By virtue of the combined video and Internet browsing capabilities of the set-top box,*

it is possible to provide functional integration between television viewing and Internet browsing. For instance, one feature of set-top boxes, as described herein, is provision of an electronic programming guide for television viewing. The electronic programming guide is an electronic database on the client which is periodically updated by the host server. The database includes scheduling, rating and other information about the television shows available to the user. Among other things, the electronic programming guide also can include links to websites associated with various shows. Using information associated with the programming guide, users are, for instance, able to conveniently access websites that relate to television shows using on screen links. Upon activation of the link, the user is transferred into a chat room related to the particular television show being viewed as depicted in FIG. 6. In the chat room of FIG. 6, text messages from the new user (as well as other participants in the chat room) are displayed in a chat region 108 of a chat user interface 110, as symbolized by the large "Chat Transcript" identifier. Text messages between the various participants are transmitted to each other over a communications network, which is typically the Internet. As indicated, the chat user interface may include a text entry box 112 into which users are able to enter text messages using the remote control. After entry of the message, the user typically selects and actuates a send button 114 with the remote control to deliver a new message to add to the chat transcript. A scroll bar 116 on the edge of the chat user interface may be provided to allow the user to scroll up and down to review older messages that

may have scrolled out of the chat region. Chat user interface 110 also includes a video region 118 for display of a video signal, i.e., a television program which the user was viewing prior to entry of the chat room. The chat interface may further include a logo region 120 for display of a selected logo which may be associated with the chat room. An informational region 122 also may be provided, the information region including various data such as a clock 124, a television program identifier 126, i.e., a show name, a program schedule time 128 and an interactive link 130. Interactive link 130 may be provided to permit a user to jump to a website related to the television content being viewed, or receive other interactive data related to the television program. For instance, a user may be linked to the NBC website during viewing of an NBC show or may receive sports scores during a sporting event.

e. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Rangan's authoring system having data capture and synchronization system at the user's end and adapted to receive broadcast data-streams from varying sources and combine and synchronize the streams so the data from the two different streams may be integrally displayed as authored. System 115 has a central processing unit (CPU) 117 that has a cache memory and random access memory (RAM). System 115 may be integrated with a computer or components thereof, a WEB TV or components thereof, or another type of receiving station capable of capturing and displaying broadcast video.

f. *The motivation would have been for an effective and particularly for a way to more efficiently utilize by virtue of the combined video and Internet browsing capabilities of the Client premise equipment it is possible to provide functional integration between television broadcast viewing and Internet browsing.*

g. *Therefore, it would have been obvious to combine these two references of Rangan's and Bruck's disclosures in light of providing a system, method and apparatus which efficiently integrates broadcast signals and internet browsing, For and enhanced interactive viewing of broadcast signals.*

*Together Rangan and Bruck disclosed all limitations of **Claims 1-43**, and hence, are rejected under 35 U.S.C. 103(a).*

As to Claims 1, 13, 17 and 21, Rangan teaches A content related information provision apparatus that provides related information on contents including reference data arranged in time series, the apparatus comprising (as stated in col. 5, lines 53-60, and col. 3, lines 53-54, **method and apparatus** is provided which allows a **authoring** functioning using **software modules**, in a video editing mode to initiate **tracking** of any **image entity or entities in a video data stream which have timing markers** inserted into the first **video data stream**):

related information receiving means that receives related information off contents from one or more user devices (as stated in col. 5, lines 64-67, col. 6, lines 1-5, col. 14, lines 23-35, FIG. 1 is a block diagram illustrating an authoring station 11 adapted for **accepting** a video data stream 16 from a video head end 15 as is known in the art. The

original video data source 12 may be any recorded or live source and is not limited as to protocol. Authoring station 11 includes a display 14 and an object tracking module 13 which is adapted to automatically track image entities in a video presentation, and to synchronize the tracking result with the video data stream. FIG. 8 is a block diagram illustrating multiple authoring station architecture for authoring system 51. Authoring system 51 comprises a plurality of authoring stations 61a-61d that are adapted for tracking image entities and providing additional annotation, including annotation regarding tracked entities. An authoring station such as station 61a is analogous to authoring station 11 of FIG. 1 except for added capability, for providing further annotation other than tracking information and interactive applications as described);

related information storing means that stores the received related information;
(as stated in col. 6, lines 52-63, col. 12, lines 20-29, col. 6, lines 6-16, col. 3, lines 65-67, col. 4, lines 1-14, suitable computer platform for performing the tracking process enabled by tracking module 13 is a PC/VDU running Windows with a central processing unit (CPU) operating at least 300 megahertz and having at least 64 megabytes of random access memory (RAM). Video frequency or a frame speed of 30 frames per second (FPS) is utilized in this example as a suitable and compatible standard for processing. The display size of the video picture in this instance is 352.times.240 pixels, which is a reduced resolution from that normally displayed in a video presentation on most end use stations, but provides a suitable format for the present tracking process. Subscriber (end users) to a service specializing in providing video media wherein interactive advertisements are presented may obtain CPE equipment adapted to

display, identify, and provide, through interactive device, methods for obtaining additional information regarding image entities. Such interaction may be a simple mouse click on the entity during playback of the video which may invoke a link to a network-based data-server that may deliver the data to the end user via modem connection or the like. The overall purpose of the authoring station is addition of innovative material to the video data stream, such as text overlay, graphic icons and logos for advertisement, some of which may be associated with identity and address data to allow a viewer at a computerized end station to access advertisements and other data which may be associated with individual entities in the video presentation. Advertisements may, for example, be associated with a tracked object. Also the text annotations could either be set to track along with an object, or appear in a fixed position anywhere on the screen, as they are typical in broadcasts today. In some embodiments the first data stream is a live video data stream and the second data stream is an annotation data stream authored in synchronization with the first data stream. The annotation data stream may include tracking data derived from tracking an entity in the first data stream. System for synchronizing a first data stream with a second data stream is provided, comprising a first controllable dynamic buffer reading the first data stream for inserted frame identifiers identifying frames from the second data stream to be displayed with frames from the first data stream to accomplish synchronization; a second controllable dynamic buffer reading frame identifiers in the second data stream; and a control module controlling the dynamic buffers, adjusting the

relative position of the two dynamic streams to accomplish synchronization according to the data read from the two data streams);

reference information receiving means that receives reference information from the one or more user devices, the reference information specifying contents to be referred to by the related information and specifying a data reference position in the contents (as stated in col. 11, lines 45-52, col. 13, lines 18-28, col. 14, lines 52-65, col. 15, lines 5-12, Tracking module 13 set-up includes operations such as pre-selecting tracking box shape and size, pre-selecting number of target and test pixels, and so on. Process execution encompasses initiating and carrying out the automated tracking process including iterative execution of the test algorithm. A data-stream generator produces a data-stream with tracking coordinates for each frame interval which is synchronous to the frame intervals of video stream. Authoring system 51 receives stream 49 for the purpose of authoring the stream as described above. Authoring system 51 comprises multiple dedicated authoring stations equipped with software capable of tracking images within the video stream and adding annotations including interactive icons, text, animated graphics and sounds, as is disclosed in enabling detail below. Due to a unique synchronous architecture which allows multiple image tracking and annotation operations to be performed simultaneously, the resulting output streams, shown here as stream 53 (video stream) and stream 55 (annotation stream). After authoring is performed via stations 61a-61d, as illustrated, there are two streams that are output and transmitted from each authoring station. One is video stream 53 which in most embodiments will remain unchanged under most circumstances. The other is an

annotation data stream containing annotations such as are individual to each authoring station where annotations are performed. For example, annotation streams 62a-62d are associated with stations 61a-61d respectively. Annotation streams 62a-62d differs from each other only in that the annotations contained therein are different as a case of being authored in different authoring stations. An authoring server 63 is provided and adapted to combine annotation streams 61a-d into one annotation stream 55 which is analogous to stream 55 of FIG. 7. In this way, all annotations performed separately may be combined and may act in unison. Video stream outputs from the separate authoring stations converge, or more specifically, remerge into video stream 53 as illustrated via a horizontal, left-facing arrow labeled element number 53);

reference information storing means that stores the received reference information; (as stated in col. 15, lines 15-23, If there is a known latency with respect to recombining streams 62a-62d in server 63, then video stream 53 must be re-synchronized with annotation stream 55 before stream 55 becomes output. In this case, stream 53 is diverted over path 65 into server 63, stored in controllable dynamic buffers as done in authoring stations and delayed until it is synchronous with stream 55 before it exits server 63 over path 67. In this way, streams 55 and 53 remain synchronous on output from the authoring server system. In an alternate embodiment, synchronic delay may be performed in a separate server (not shown);

and information delivering means that transmits information for displaying on a display regarding which related information is inputted at a specific user device from among said one or more user devices, and that delivers at least one of the stored

related information or the stored reference information to the one or more user devices; (as stated in col. 17, lines 16-32, col. 20, lines 47-59, col. 4, lines 64-67, col. 5, lines 1-3, col. 13, lines 56-67, col. 14, lines 1-6, bulk of annotation in the form of inserted text, graphical icons, universal resource locators (URL's), interactive shapes, and so on will, in many embodiments, be at least partly associated with tracking coordinates of an image and therefore will depend on those frame by frame coordinates. For example, an interactive icon may follow a moving image entity and be visible by an end user as in case of advertisement logos for sponsors of sportspersons in a sporting event. Text blocks and the like may take similar association. Hence, the specific content of annotations and insertion methods of such annotations may be pre-designed based on known facts about the video stream such as what image is to be tracked for what advertiser who has what URL's and so on. Execution of those annotations may be automatic according to a timed function as described above, or may be performed manually, perhaps using a macro or other designed input function. FIG. 11 is a process flow chart illustrating logical steps for providing a synchronization signature at the authoring end according to an embodiment of the present invention. At step 103 the frames of the two streams are identified and monitored as necessary. The software may determine, for example, the scope (density) of annotation, the status of available VBI and HBI areas, and the frequency of frames for time marking intervals, and so on. This step also includes counting frames for the purpose of generating annotation frame numbers for signature association purposes. In step 105, serial binary numbers are generated in separate sequences that may be used for time marking, physical marking,

and frame association. Apparatus and methods are provided allowing **data streams** to be **marked** while operated in synchronization, and to then be **delivered** by different **networks** having different latency effects, such that the streams are not synchronous as received, but may be re-synchronized using the marks provided while the streams were synchronous. Stream 55a, is illustrated as being sent along with stream 53 to broadcast system 47 where the streams are combined before broadcasting. In case of an analog broadcast the annotation data stream (stream 53) may, for example, be sent using the Vertical Blanking Interval (VBI) and synchronized with the video. In case of a digital broadcast (using for example MPEG2 digital video format) this annotation stream may be sent as a private data stream multiplexed with the audio and video streams in the digital broadcast. Annotation stream 55b is alternatively illustrated as being delivered over a wide-area-network (WAN) 57, which may be the Internet or other type of WAN, directly to one, some or all of end users 48a via a path 59 which represents collective individual user WAN connections. Likewise, still other known delivery mediums may be used. In some special instances, streams 53 and 55 may be combined before leaving authoring system 51. There are many variable possibilities);

wherein the content referred to in the related information was already distributed or will be distributed to the one or more user devices (as stated in col. 12, lines 20-29, Subscriber (end users) to a service specializing in providing video media wherein interactive advertisements are presented may obtain CPE equipment adapted to display, identify, and provide, through interactive device, methods for obtaining additional information regarding image entities. Such interaction may be a simple

mouse click on the entity during playback of the video which may invoke a link to a network-based data-server that may deliver the data to the end user via modem connection or the like.

As to Claims 2, 14, 18 and 22, Rangan teaches content related information provision apparatus, method, computer program stored on media and annotation system, according to claims 1, 13, 17 and 21, further comprising:

*means that specifies an installation region of a terminal apparatus of the one or more user devices to be a delivery destination according to the information delivering means (as stated in col. 17, lines 1-5, col. 18, lines 1-5, col. 17, lines 25-32, user interface 83 may pre-programmed by an author to supply the appropriate pre-selected annotations in a reactive fashion. That is, according to a specific time interval, a signal could initiate annotation inserts and so on. Signature application module resident in **authoring server** is initiated after and **coordinate tracking** and **annotation** has been performed and **synchronization** of Video data stream and Annotation data stream is achieved in the authoring server. Specific content of annotations and insertion methods of such annotations may be pre-designed based on known facts about the video stream such as what image is to be tracked for what advertiser who has what URL's and so on. Execution of those annotations may be automatic according to a timed function, or may be performed manually, perhaps using a macro or other designed input function);*

and information changing means that changes contents of related information and/or reference information, which should be delivered, according to the installation

region (as stated in col. 18, lines 29-32, col. 18, lines 6-10, and col. 17, lines 55-60, **number/time marker-generator** module generates code to represent frames in annotation stream and also to represent time markers in video streams. Video and annotation streams are given **frame-specific identification** and marking as well as **time-stamped** so that they may later be **synchronized** by using inserted data corresponding to the **frame-specific identification**. The signature streams are then sent to their respective **broadcast and/or data-transmission systems** to be sent to an **end user**).

*As to Claims 3, 15, 19 and 23, Rangan teaches content related information provision apparatus, method, computer program stored on media and annotation system, according to claims 1, 13, 17 and 21, wherein the contents refer to a broadcast program, and the reference information includes information specifying a broadcasting station, which broadcasts or has broadcasted a program, and information specifying a date and time when a reference part in a program is broadcasted or has been broadcasted (as stated in col. 6, lines 39-50, col. 3, lines 33-38, **authoring station** comprises **software module** that may process various media analog or digital not limited to common formats such as Audio Video Interleave AVI and Moving Pictures Experts Group MPEG. Video source may embody any **video source (contents)** that may be known in the art such as a CD-ROM, **Satellite TV**, **cable TV**, VCR, **Internet Server**. **Video source** may provide **prerecorded video** or **live broadcast video**. The first data stream is a live video data stream and **timing markers** are placed by the*

writer in the **first data stream**, the second data stream is an **annotation data stream (reference information)** authored in **synchronization** with the first **data stream**. The **annotation data stream** includes **tracking data** with **time stamps** derived from tracking an entity in the **first data stream (contents)**.

*As to Claims 4, 5, 16, 20 and 24, Rangan teaches content related information provision apparatus, method, computer program stored on media and annotation system, according to claims 3, 14, 18 and 23, wherein the reference information specifies a broadcasting station, which broadcasts or has broadcasted a program, using a channel number (as stated in col. 6, lines 39-50, col. 3, lines 33-38, col. 9, lines 49-52 col. 7, lines 34-41, col. 1, lines 40-55, **first data stream** is a live video data stream (**broadcasted program**) and **frame identifiers** and **timing markers** are implemented by various methods, such as **binary numbers** and are placed by the writer in the **first data stream**, timing marks in some cases are at intervals of a number of frames by convention and are representation of **value table** for **storing values**. The values being collected and stored may be kept in any **logical order** such as in a **data list** or the like. The **second data stream** is an **annotation data stream (reference information)** authored in **synchronization** with the first **data stream**. The **annotation data stream** includes **tracking data (reference information)** derived from tracking an entity in the **first data stream (content)**. **User interaction** with such an image entity during viewing of a video can be programmed to provide **additional network-stored information** about that entity to suitable customer premises equipment adapted to receive and*

display the **information**, as an **overlay** on the display of the dynamic video containing the **subject image entity**. In some systems computer elements, such as a CPU, memory, and the like, are built into the familiar chassis of a TV set. In such a system, the TV screen becomes the display monitor in the computer mode. In such a system, conventional TV elements and circuitry are incorporated along with the computer elements, and capability is provided for a user to switch modes, or to view recorded or broadcast video with added computer interaction. One may thus, with a properly equipped system, select to view analog TV programs, digital TV programs, conventional cable TV, satellite TV, pay TV from various sources, and browse the WWW as well, displaying WEB pages and interacting with on-screen fields and relational systems for jumping to related information, databases, and other WEB pages. The capabilities are often integrated into a single display, that is, one may view a broadcast presentation and also have a window on the display for WEB interaction).

*As to Claims 6, and 27, Rangan teaches content related information provision apparatus, and annotation system, according to claims 1, and 21, wherein the information delivering means includes identification information of a site handling information resources related to contents in the reference information and delivers the identification information (as stated in col. 13, lines 45-48, col. 15, lines 5-8, col. 16, lines 27-35, **Authoring system** comprises multiple **authoring stations (site handling information)** equipped with **software** capable of **tracking** images through **tracking module** and provide frame by frame **tracking coordinates** and to be a vehicle through*

which **additional annotations** may be provided through user interface, an author may set up the **parameters** for **tracking**, with reference and add additional **annotation** such as static or moving image icons, **formatted text**, animated graphics, to a single live or pre-recorded video feed via an innovative synchronous architecture which allows multiple image tracking and annotation operations to be performed simultaneously in near real-time such that delay of the broadcast video to an end user is negligible. **Authoring server** is provided and adapted to **combine annotation streams** through **frame-specific identification numbers, time stamps, and markings**, into one annotation stream, in this way, all annotations performed separately may be combined and may act in unison at the users end).

*As to Claims 7, and 28, Rangan teaches content related information provision apparatus, and annotation system, according to claims 1, and 21, wherein the information delivering means includes information for correcting deviation of a clock in a terminal apparatus to be a delivery destination in the reference information and delivers the information (as stated in col. 18, lines 30-33, col. 19, line 67, and col. 19, lines 51-54, more than one, or several, of the **synchronization schemes** may be used in any instance. A **number/time marker-generator** module generates **code** to represent frames in **annotation stream** and also to represent **time markers** in **video stream**. In some instances it may be necessary for the **servers** and the **user's equipment** to be **synchronized in time**, the **clock** at the **server** end is **synchronized** and checked with, and corresponded **clock** at the **user's end**).*

*As to Claims 8, and 29, Rangan teaches content related information provision apparatus, and annotation system, according to claims 1, and 21, wherein the information delivering means includes a characteristic amount of contents at a reference position in the contents in the reference information and delivers the characteristic amount (as stated in col. 16, lines 27-34, **tracking module** is provided and adapted to **track** an image and provide **frame by frame tracking coordinates** and to be a vehicle through which additional **annotations** may be provided through user interface, an **author** may set up the **parameters** for **tracking** such as are described with reference to **specific position**, as well as **add** additional **annotation** such as static or moving image icons, formatted text, animated graphics, sounds and the like).*

*As to Claims 9, and 30, Rangan teaches content related information provision apparatus, and annotation system, according to claims 1, and 21, wherein the information delivering means delivers plural pieces of reference information collectively (as stated in col. 17, lines 41-45, **synchronization module** is added in **authoring server** and adapted to **synchronize separate (plural) annotation streams (reference information)** before **combining** them and synchronizing them with the output video stream).*

As to Claims 10, and 33, Rangan teaches content related information provision apparatus, and annotation system, according to claims 1, and 21, wherein the

information delivering means delivers the related information and/or the reference information in accordance with an HTTP (Hyper Text Transfer Protocol) (as stated in col. 1, lines 35-38, and lines 47-55, developers are introducing integrated systems **combining TVs** with **computer subsystems**, so a TV may be used as a **WEB browser**, (**viewing web pages in HTTP**) or a **PC** may be used for enhanced **TV** viewing (**broadcast programs**). One may thus, with a properly equipped system, select to view analog TV programs, digital TV programs, conventional cable TV, satellite TV, pay TV from various sources, and browse the WWW as well, displaying **WEB pages** and **interacting** with **on-screen fields** and **relational systems** for jumping to **related information**, databases, and other **WEB pages**. The capabilities are often integrated into a single display, that is, one may view a **broadcast presentation** and also have a window on the display for **WEB interaction**).

As to Claims 11, and 34, *Rangan teaches content related information provision apparatus, and annotation system, according to claims 1, and 21, wherein the information delivering means delivers the related information and/or the reference information in accordance with an SMTP (Simple Mail Transfer Protocol)* (as stated in col. 5, lines 66-67, col. 6, lines 1-5, lines 35-38, col. 14, lines 20-22, original video data source may be any recorded or live broadcast source and is **not limited** as to **protocol**. **Annotations and alterations** may be made by adding annotations including **interactive icons**, **text**, **animated graphics** and **sounds**, to the input data stream source in the authoring station, and output from authoring station is meant to be a

indication of **data output**, and not to indicate that there is a single data stream. There may be **multiple streams** of **various protocols** and is **not limited (any protocol may be used)** by the medium of **transport protocols** used for **transmitting** the video and the annotation data stream).

*As to Claims 12, and 35, Rangan teaches content related information provision apparatus, and annotation system, according to claims 1, and 21, wherein the information delivering means designates a character string, which is capable of identifying reference information, in a header of a delivery message at the time of delivery of reference information (as stated in col. 18, lines 35-40, lines 29-34, col. 19, lines 61-65 and col. 20, lines 60-65, **user interface** may **pre-programmed** by an **author** to supply the appropriate **pre-selected annotations** in a **reactive** fashion. That is, according to a specific time interval, a **signal** could **initiate annotation inserts** and so on. In other embodiments, an author may physically enter an **annotation** via pressing **pre-defined keys** on a **keyboard** and so on. There are many known methods for inserting annotations. Several separate signature methods, for analog video, digital video, are used to insure that synchronization information survives to the customer's equipment end. A **number/time marker-generator module generates code (string)** to represent frames in annotation stream and also to represent time markers in video stream. Further, if the video is in a digital format, such as Motion Picture Expert's Group (MPEG), SMPTE-like **time stamps** may be inserted into the **headers** in the **data packets** which are then compared with time stamps in the control stream. **Annotation***

frame numbers are written into areas associated with **video frames** as well as to the appropriate **annotation frame headers**).

*As to Claims 25-26, Rangan teaches annotation system, according to claim 21, wherein the transmitter is further configured to transmit a name of a bulletin board, in which a corresponding remark is written, with the name included in the reference information (as stated in col. 14, lines 35-40, and col. 16, lines 51-60, FIG. 8 is a block diagram illustrating a **multiple authoring station** architecture for authoring system that are adapted for tracking image entities and providing additional annotation, add annotation such as static or moving image icons, formatted text, animated graphics, sounds including annotation regarding tracked entities. An annotation manager converts annotation data, input during annotation processes and the data relating to the tracked entities output from the tracking module, to metadata for more compact **transmission** in output data stream **containing information** about the various **annotations added** by the **author of authoring station** and the tracking co-ordinates of the tracked entities and is analogous to the **annotation stream (reference information)**. User interface provides considerable option and capability for entering commands to add image icons, animated graphics, following tracked objects or static or moving independently in the video in predefined manner, **formatted text captions** and so on).*

As to Claim 31, Rangan teaches annotation system, according to claim 21, further comprising:

*a unit that, in writing of a remark, transmits an execution code for automatically acquiring reference information or urging a user to input a remark to a terminal apparatus side of a requiring source of the one or more user devices (as stated in col. 14, lines 35-40, single **annotated video-stream** is output from display module to a suitable connected display monitor or screen. An **input signal** represents **user interaction** with an entity in **video stream** as it is displayed. Such an **input signal** may **trigger downloading** of **additional detailed information** regarding the **subject of interaction**. Interaction signal results from a mouse click or other **input command** such as may be initiated via a connected keyboard or a remote pointing device or the like).*

As to Claim 32, Rangan teaches annotation system, according to claim 21, further comprising:

*a unit that, concerning an execution code for automatically acquiring reference information stored in the terminal apparatus of the requesting source of the one or more user devices in advance or urging a user to input a remark, transmits information necessary for starting the execution code to the terminal apparatus (as stated in col. 17, lines 58-65, video/data stream signature operation is **executed** after coordinate **tracking** and **annotation** operations are performed in an authoring station. The signature streams are then sent to their respective **broadcast** and/or **data-transmission systems** to **transmit information** to an end user. **Video/annotation***

stream capture and **synchronization** operations, **executed** via **software** on customer premises equipment is **executed** at the **user's end** for a single combined stream to be viewed by the **user**).

As to Claim 36, Rangan teaches annotation system, according to claim 23, further comprising:

*a specification unit that, concerning a program series to be an object of an argument in a bulletin board, specifies a broadcast schedule for the next broadcast of the series (as stated in col. 6, lines 6-16, Purpose of the **authoring station** is **addition of innovative material** as **annotations and alterations** to the video data stream, such as **text overlay**, graphic icons and logos for advertisement and **interaction with viewer**, associated with **identity and address data** to allow a **viewer** at a computerized end station to access advertisements and other **data** which may be associated with individual entities in the video presentation);*

*and a unit that transmits the broadcast schedule to a terminal apparatus of a request source of the one or more user devices (as stated in col. 7, lines 29-40, Through tracking process and additional editing processes a moving region associated with the image entity in a display may be made to be **interactive** and **identifiable** to an **end user**. User **interaction** with such an image entity during viewing of a video can be **programmed** to provide additional **network-stored information** about that **entity** to customer premises equipment adapted to receive and display the information. Such **network-stored information (broadcast schedule)** is **transmitted** and may be*

displayed, as an **overlay** on the display of the dynamic video containing the **subject image entity**).

As to Claim 37, Rangan teaches annotation system, according to claim 36, further comprising:

*a setting unit that sets a bulletin board for each program series and performs download of the program schedule from a screen displaying information in the bulletin board or a screen displaying a list of remarks in the bulletin board (as stated in col. 22, lines 34-42, single **annotated video-stream** is output from display module to a suitable connected **display monitor** or **screen**. An input signal represents **user interaction** with an **entity** in **video stream** as it is **displayed**. Such **input signal** may **trigger downloading** of **additional** detailed **information** of **network-stored information (broadcast schedule)** regarding the subject of **interaction**. Interaction signal results from a mouse click or other input command such as may be initiated via a connected keyboard or a remote pointing device or the like).*

As to Claim 38, Rangan teaches annotation system, according to claim 23, further comprising:

*a specification unit a rebroadcast schedule for a program to be an object of a remark (as stated in col. 23, lines 32-40, user or users that receive the video data via broadcast, and the **annotation data** via a WAN, or the Internet. **Additional data, network-stored information (rebroadcast schedule)** obtained by a user through*

interaction with a tracked entity in the video may be **personalized** and **specific** to the **user** through **annotation data**);

and a unit that transmits the rebroadcast schedule to a terminal apparatus of a request source of the one or more user devices (as stated in col. 23, lines 32-40, col. 22, lines 57-67, In a case such as this a user would, perhaps, obtain a **subscription** to the **service** (program, broadcast), for other **rebroadcast schedule** and data delivery methods. **Prerecorded** and **authored video** feed from a source connected to an optional input module may be synchronized with a previously stored and annotated data stream from a source connected to a second optional input module as long as the signature process was applied to both streams. **Interaction** with tracked entities and the like associated with the **prerecorded streams** may be sent to a participating **Internet server** or the like for **rebroadcast** through the modem sub-module and the system is on-line during viewing).

As to Claim 39, Rangan teaches annotation system, according to claim 38, wherein the transmitting means transmits the rebroadcast schedule with the rebroadcast schedule included in reference information (as stated in col. 23, lines 32-40, user or users that receive the video data via broadcast, and the **annotation data** via a WAN, or the Internet. **Additional data, network-stored information (rebroadcast schedule)** obtained by a user through **interaction** with a tracked entity in the video may be **personalized** and **specific** to the **user** through **annotation data (reference information)**).

As to Claim 40, Rangan teaches annotation system, according to claim 21, further comprising:

*a designate unit configured to designate retrieval conditions for a remark (as stated in col. 22, lines 34-42, single annotated video-stream is output from display module to a suitable connected display monitor or screen. An input signal represents **user's interaction** with an **entity** in video stream as it is displayed. Such a **signal** may **trigger** downloading of additional detailed **information** regarding the subject of **interaction**);*

*and retrieving unit configured to retrieve a remark across plural bulletin boards on the basis of the designated retrieval conditions (as stated in col. 22, lines 34-42, **Interaction signal** results from a **mouse click** or other **input command** such as may be **initiated** via a **connected keyboard** or a **remote pointing device** or the like by the **user's**).*

*As to Claim 41, Rangan teaches annotation system, according to claim 40, wherein the bulletin board system uses a keyword included in a remark or designated separately at the time of writing the remark as retrieval conditions (as stated in col. 22, lines 34-42, **Interaction signal** results from a **mouse click** or other **input command** such as may be **initiated** via a **connected keyboard** or a **remote pointing device** or the like by the **user's**).*

*As to Claim 42, Rangan teaches annotation system, according to claim 40, wherein the bulletin board system uses a name or an ID of a user who has written the remark as retrieval conditions (as stated in col. 7, lines 29-40, Through **tracking process** and additional **editing processes** a moving region associated with the image entity in a display may be made to be **interactive** and **identifiable** to an **end user**. User **interaction** with such an image entity during viewing of a video can be **programmed** to provide additional **network-stored information** about that **entity** to customer premises equipment adapted to receive and display the information. Such **network-stored information (broadcast schedule)** is **transmitted** and may be displayed, as an **overlay** on the display of the dynamic video containing the **subject image entity**).*

*As to Claim 43, Rangan teaches annotation system, according to claim 40, wherein the bulletin board system uses a date and time when the remark is written as retrieval conditions (as stated in col. 18, lines 29-34, *number/time marker-generator* module generates code to represent frames in **annotation stream** and represent **time markers** in video stream).*

Response to Arguments

4. Applicant's arguments filed on 06/30/2008 have been fully considered, but they are not persuasive.

- a. *Applicant's arguments with respect to **Claims 1–43** have been considered but are moot in view of the new ground(s) of rejection.*
- b. *Applicant argues that the applied references do not suggest the feature of:*
- c. *“related information receiver that receives related information on contents from one or more user devices”*

Rangan and Bruck both disclose system, method and apparatus for authoring stations and set-up boxes having receiver and transmitter for receiving both the broadcast signals and data signals arriving through different medium, such that they have the benefit of both broadcast signals and internet browsing, and they disclose all the features and elements of the present application.

Therefore, Applicant's arguments are not persuasive regarding all these features, elements of the present application.

Hence Examiner respectfully disagrees with Applicant's arguments on page 15-19, and maintains his rejection.

Action Final

5. Applicant's arguments necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within

TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Muktesh G. Gupta whose telephone number is 571-270-5011. The examiner can normally be reached on Monday-Friday, 8:00 a.m. -5:00 p.m., EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William C. Vaughn can be reached on 571-272-3922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Art Unit: 2144

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MG

/William C. Vaughn, Jr./

Supervisory Patent Examiner, Art Unit 2144